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## Active Primary Care Physicians in Nebraska: Data Comparison, Supply, and Characteristics

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# Active Primary Care Physicians in Nebraska: Data Comparison, Supply, and Characteristics

Soumitra S. Bhuyan, Marlene Deras, and Jim P. Stimpson

## SUMMARY

Policy makers need accurate and timely data on the current and projected supply of health care workers as they make decisions that affect the delivery of health care. In this brief, we compare data on the primary care physician supply in Nebraska from the AMA Physician Masterfile to data from surveys conducted by the Health Professions Tracking Service. In addition, we report the supply of primary care physicians (PCPs) across four primary care specialties (family medicine, internal medicine, pediatrics, and obstetrics/gynecology) and provide data on the characteristics of PCPs in Nebraska.

## Introduction

Policy makers need accurate and timely data on the current and projected supply of health care workers as they make decisions about expanding health insurance coverage or changing scope of practice laws (e.g., expanding the responsibilities of physician assistants or nurse practitioners).<sup>1,2</sup> Most studies of the physician workforce have used data from the American Medical Association (AMA) Physician Masterfile.<sup>3</sup> The medical education community and policy makers often use these studies in decision making.<sup>4</sup> However, a growing body of literature identifies concerns about the quality of the estimates provided by the AMA data. The most important concerns are that the Masterfile data may overestimate the number of physicians, that the lag time in providing estimates limits the usefulness of the data, and that the data do not accurately account for the number of hours physicians work.<sup>5-8</sup>

In this brief, we compare data on the primary care physician supply in Nebraska from the AMA Physician Masterfile to data from surveys conducted by the Health Professions Tracking Service (HPTS). In addition, we report the supply of primary care physicians (PCPs) across four primary care specialties (family medicine, internal medicine, pediatrics, and obstetrics/gynecology) and provide data on the characteristics of PCPs in Nebraska.

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## Methods

### Data Sources

The University of Nebraska Medical Center Health Professions Tracking Service surveys Nebraska physicians annually and physician practice locations semiannually. The combined physician and practice location responses enable HPTS to link physician and practice location data in a relational database. This comprehensive approach identifies practicing physicians, practice specialties, practice locations (primary and satellite), and reported average work hours throughout Nebraska.

Physicians surveyed by the HPTS are doctors of medicine and doctors of osteopathy licensed in Nebraska and identified as (1) actively practicing in Nebraska, (2) newly licensed in Nebraska within the past year, or (3) having a Nebraska address and practice information is unknown. The survey collects data on practitioner specialties, primary practice location, satellite practice locations, and hours. Follow-up telephone calls are made annually to practice locations whose information has not been confirmed through the survey process within the past year. The data is entered into a

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relational database and used as a foundation for subsequent surveys.

The AMA Physician Masterfile is a database maintained by the AMA Division of Survey and Data Resources, which contains current and historical records on more than one million physicians in the United States. This database is used primarily by organizations to verify the credentials of physicians, and also as the primary source of research data on physician supply for the nation and most states.<sup>3,4</sup>

We defined PCPs as physicians with either a doctor of medicine (MD) or osteopathic physician & surgeon (DO) degree with training in family medicine, internal medicine, pediatrics, and obstetrics/gynecology. We grouped physicians identified as general practice with family medicine. We also grouped geriatric medicine (family medicine) with family medicine, geriatric medicine (internal medicine) with internal medicine, and internal medicine/pediatrics with pediatrics. Active physicians include those who are licensed to practice medicine in the state of Nebraska; who currently work in the state of Nebraska; and who work in direct patient care, research, administration, teaching, or any other activities. We excluded federally employed physicians and residents enrolled in the various state residency programs.

#### Data Analysis

To compare HPTS data to AMA data, we analyzed HPTS data and calculated the number of PCPs per 100,000 population. We then compared the HPTS data (2007-2011) to AMA data as cited in recent reports (2007-2008, 2010) by the Association of American Medical Colleges (AAMC).<sup>9-11</sup> This comparison includes three primary care specialties—family medicine, internal medicine, and pediatrics—for the total PCP counts.

For the second comparison, we used HPTS data detailing physicians' actual work hours. We calculated the number of full-time equivalents (FTEs) spent practicing medicine across the four primary care specialties: family medicine, internal medicine, pediatrics, and obstetrics/gynecology. Actual physician FTEs were then adjusted up-

ward to account for hours spent in other patient care activities.<sup>12</sup> The adjustment factor for family medicine was 1.4 times total outpatient hours; for internal medicine it was 1.8 times total outpatient hours, for obstetrics/gynecology it was 1.9 times total outpatient hours, and for pediatrics it was 1.4 times total outpatient hours. Using this ratio and population information from the U.S. Census Bureau and Nebraska government resources, we calculated the expected numbers of FTEs for Nebraska.<sup>13,14</sup> For physicians practicing both in primary practice locations and in satellite locations, FTEs were divided among the counties based on the reported weekly office hours in each location. Physicians practicing more than 40 hours a week were considered as 1.0 FTE. We then calculated the expected FTEs for PCPs across four primary care specialties using the national average physician-to-population ratio.<sup>15-18</sup> We compared the expected number of FTEs based on the national average to the actual number of FTEs calculated from the HPTS data. Finally, using the HPTS data, we describe the change in demographic characteristics of the PCP workforce in Nebraska between 2007-2011.

## Results

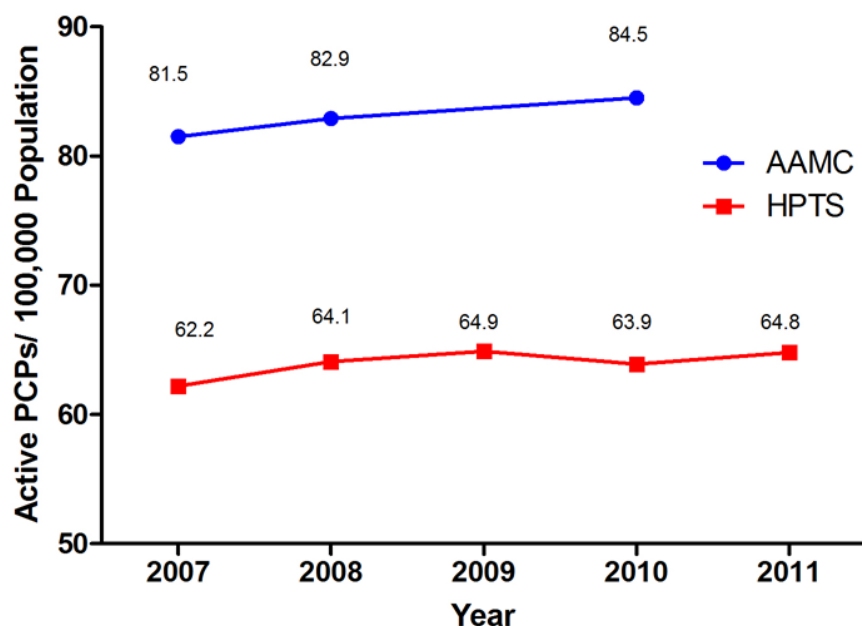
### Comparison of HPTS and AMA Data

Within the same specialties and time periods, the AMA rates of PCPs actively practicing in Nebraska were about 30% higher annually for 2007, 2008, and 2010 than the HPTS rates. Additionally, the AMA data suggests that the number of PCPs per 100,000 population increased between 2008 and 2010. However, HPTS data indicate a slight decline in the number of active PCPs per 100,000 population from 2008 to 2010 (Exhibit 1).

### Supply of PCPs in Nebraska

Exhibit 2 shows the number of hours spent practicing medicine as another indicator of the supply of PCPs in the state of Nebraska and does not reflect individual county results. The national physician-to-population ratio for family medicine was 1:3605; for internal medicine it was 1:3781, for pediatrics it was 1:6958, and for obstetrics/gynecology it was 1:8664.<sup>17</sup> Using the physicians' actual work hours from the HPTS data, we

Exhibit 1. Primary Care Physicians in Nebraska, 2007-2011: American Medical Association and Health Professions Tracking Service Data Comparison



Sources: Health Professions Tracking Service 2007-2011; Center for Workforce Studies. State physician workforce data book. Washington, DC: Association of American Medical Colleges.

Note: PCPs, for comparison purpose, are defined as family medicine, internal medicine, and pediatrics.

found that family medicine had an above national average count of FTEs (+201.29). In contrast, the other primary care specialties indicated a below national average count of FTEs. The number reflects the state of Nebraska's actual cumulative FTEs and does not reflect individual county actual FTEs or variance between urban and rural counties.

#### Demographic Characteristics of PCPs in Nebraska

Exhibit 3 shows 2011 demographic characteristics of active PCPs in Nebraska and the percent change by characteristic from 2007-2011. The PCP population changed significantly with respect to age, sex, and race/ethnicity. Most notable, the proportion of physicians older than 65 years grew by 78%, the proportion of female

physicians grew much more than that of male physicians (21% vs. 3%), the proportion of African American physicians grew by 38%, and the proportion of Hispanic physicians almost doubled (93%).

We aggregated the following educational information for active PCPs over the period 2007-2011, rather than calculating annual estimates:

- 61% earned their medical degree from an institution in Nebraska
- 51% attended a residency program in Nebraska
- 12% received their medical degree from an institution outside the United States

Exhibit 2. FTE Difference by Primary Care Specialty, 2011

Physician Specialty	Physician-to-Population Ratio	Expected FTEs	Actual FTEs	Difference
Family Medicine	1:3605	506.61	707.90	+ 201.29
Internal Medicine	1:3781	483.03	237.14	- 245.89
Pediatrics	1:6958	262.48	204.53	- 57.95
Obstetrics-Gynecology	1:8664	210.79	166.54	- 44.25

Source: Health Professions Tracking Service.

Exhibit 3. Demographic Characteristics of Primary Care Physicians in Nebraska

Characteristic	2011 %	2007-2011 % Change
Sex		
Male	63	+ 3
Female	37	+ 21
Age Distribution		
26-40 years	25	+ .5
41-65 years	68	+ 10
> 65 years	7.2	+ 78
Race/Ethnicity		
Native American	0.4	+ 50
White	82	+ 13
Black/African American	2	+ 38
Hispanic	2	+ 93
Asian	4	+ 23
Other/Unknown	9	- 26

Source: Health Professions Tracking Service, 2007-2011.

Notes: PCP includes family medicine, internal medicine, pediatrics, &amp; obstetrics and gynecology; percentages are rounded to nearest whole number.

## Conclusion

The results from this analysis suggest that HPTS data may provide a more complete picture of the supply of physicians actively practicing medicine in Nebraska than does the AMA Physician Masterfile. Using the HPTS data, we found a difference in active PCP counts compared to the AAMC reports using AMA Physician Masterfile. Estimations of the physician workforce supply based solely on numbers of physicians can be biased, as they do not account for actual working hours or place of work. A significant number of physicians may not be working full-time, considering the aging of the health care workforce.<sup>19</sup> Our analysis controlled for physician practice location and used the actual reported weekly

hours to calculate the total FTEs for primary care physicians actively practicing in Nebraska.

The challenge of recruiting and retaining health care workers, particularly PCPs, has been an ongoing problem, underscored by programmatic efforts, such as the National Health Service Corps,<sup>20</sup> and by the work of the National Center for Health Workforce Analysis. This analysis and others have shown that HPTS data provides an accurate annual evaluation of the supply and characteristics of the health care workforce.<sup>15</sup> Currently there are only a handful of operations like HPTS across the country. Dedicated and consistent streams of funding are needed to sustain such efforts to study the health care workforce.

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## Conflict of Interest

None.

## Disclaimer

The views expressed herein are those of the authors and do not necessarily reflect the views of collaborating organizations or funders, or of the Regents of the University of Nebraska.

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